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2. EC Declaration of conformity

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Herewith declares that

Machine: Stretch wrapper
Brand: **REO·PACK**
Type, serial no., year: JI20.462.711, 2013

-is in conformity with the provisions of the Machinery Directive 2006/42/EC, and with national implementing legislation;

-is in conformity with the provisions of the following other EC Directives:
EN 415-6:2006 + A1:2009, EN 60204-1:2006, EN 619:2002 + A1:2010.

Position: Manufacturer
Name: Thorvald Christensen
Company: **REO·PACK** A/S, Denmark

Mariager, August 17, 2013

Thorvald Christensen

3 Safety Instructions

3.1 General

These operating instructions are intended to facilitate use of the machine for its intended purpose. They contain information important for using the machine safely, appropriately and economically. Observing the instructions will help to avoid hazards, reduce necessary repairs and down times and increase the reliability and service life of the machine.

The **REO·PACK** pallet wrapper may not be used for any other purpose other than its intended and described purpose. All safety features must be activated and the established regulations observed. Neither operating personnel nor other persons may enter the working area of the machine when it is in operation or if the power supply is on. Along with the operating instructions and any accident prevention regulations applicable in the country and location of use, all recognized technical regulations concerning safe and professional operation must also be observed.

3.2 Before Switching the Plant On

Before they switch the plant on, the operating personnel must ensure that no-one is standing within the working range of the wrapping machine or within the safety barriers. They must also ensure that all safety features have been correctly activated. The plant must be switched on as described (*please refer to 4.2 Switching the Plant On*).

3.3 Operating the Plant

The operating personnel must be familiar with the operation of the plant in both automatic and manual modes. They must be completely familiar with all stop, emergency stop and restart functions. No-one may stand within the dangerous working area of the plant during operation. Safety features such as covers, doors and suchlike may not be removed.

3.4 Servicing the Plant (Inspection and Repair)

Operating and service personnel must ensure that the plant is not in operation, the power supply is switched off and that the plant has been secured against unauthorized or inadvertent restart, and that all moving parts have come to a complete stop. Only then may the working area of the plant be entered. The pallet conveyors (roller and chain conveyors) have not been designed to carry people. The machine must only be entered through the safety doors. The personnel must observe the safety instructions in their entirety **before** entering the plant. A reset must be made before the plant is restarted. If necessary, return the plant to its initial state manually or using a Home Run (*please refer to 5.1 Program Reset*). Safeguard the plant against water, oil and dirt.

Guarantees and liabilities will be void if replacement parts other than those from **REO·PACK** are used.

3.5 Emergency Stop

The wrapper is equipped with an emergency-stop circuit with a red signal lamp that indicates when an emergency stop has been activated and a green illuminated push button for a restart.

The emergency stop buttons cut off the power to all drives and switch automatic mode off. An emergency stop will display an error message on the operating console, the green illuminated 'Plant On' button will go out and the red 'Emergency Stop' signal lamp will turn on.

Release the emergency stop button and push the green 'Plant On' button to restart the plant. The button will light green and the red 'Emergency Stop' signal lamp will go out. Acknowledge the error message and select automatic (*please refer to 5.2 Automatic Mode*) or manual (*please refer to 5.3 Manual*) operating mode.

3.6 Safety Door

The safety door allows the safety area of the plant to be entered. An electromagnetic lock keeps it closed when the plant is in operation. In order to enter the plant, deactivate the wrapper automatic mode and push the door button to release the door lock. The button's green LED will indicate whether the locks have been released. If the LED is blinking, this indicates that the release has been activated but is not yet complete; if it is lit, then the doors can be opened. The main contactors are switched off while the safety door is open or unlocked. When open, the door lock can be locked with a padlock, preventing it from closing and the plant from being switched on. This enables service and repair work to be carried out safely on the plant while preventing inadvertent re-start.

To restart the plant after the door has been opened, close the door and again press the door button. The LED will go out. Start the plant by pushing the green illuminated 'Plant On' button and select the mode of operation required, automatic (*please refer to 5.2 Automatic Mode*) or manual (*please refer to 5.3 Manual*).

3.8 Entering the Stretcher to Replace a Roll of Foil

The plant must often be entered in the course of normal operation in order to replace the stretch foil and the cover sheet foil (*please refer to 7 Replacing the Foils*).

4 Description of the Method of Operation

4.1 Description of the Machine

The pallet conveyor consists of a rotary disk with a roller conveyor and a motor-driven foil holder and a fixed column, the tower. The tower has a foil carriage, which move vertically. The foil carriage carries the foil up and down while the pallet is wrapped.

4.2 Switching the Plant On

- Turn the main switch to position 'I'.
- The 'Emergency Stop' lamp will light up.
- Release the emergency stop and switch on the controls with the green illuminated 'Plant On' button.
- The 'Plant On' signal lamp will light up. The plant has been energized.
- If the plant cannot be switched on even though the emergency stop button has been released, this suggests that either an external emergency stop has been triggered, the safety light barrier has been triggered or that the safety door is open.
- If you wish to operate the plant in automatic mode, please refer to 5.2 *Automatic Mode*.
If you wish to operate the plant in manual mode, please refer to 5.3 *Manual*.

Acknowledge any error messages that may be displayed by pressing briefly the **ACK** button. The plant can be completely reset by a program reset if this should be required. To do this, press the reset button until after approx. 3 seconds the message *Reset* or *Home Run* appears in the text display, or until the button blinks. No reset can be made in automatic mode (please refer to 5.1 *Program Reset*).

4.3 Restart

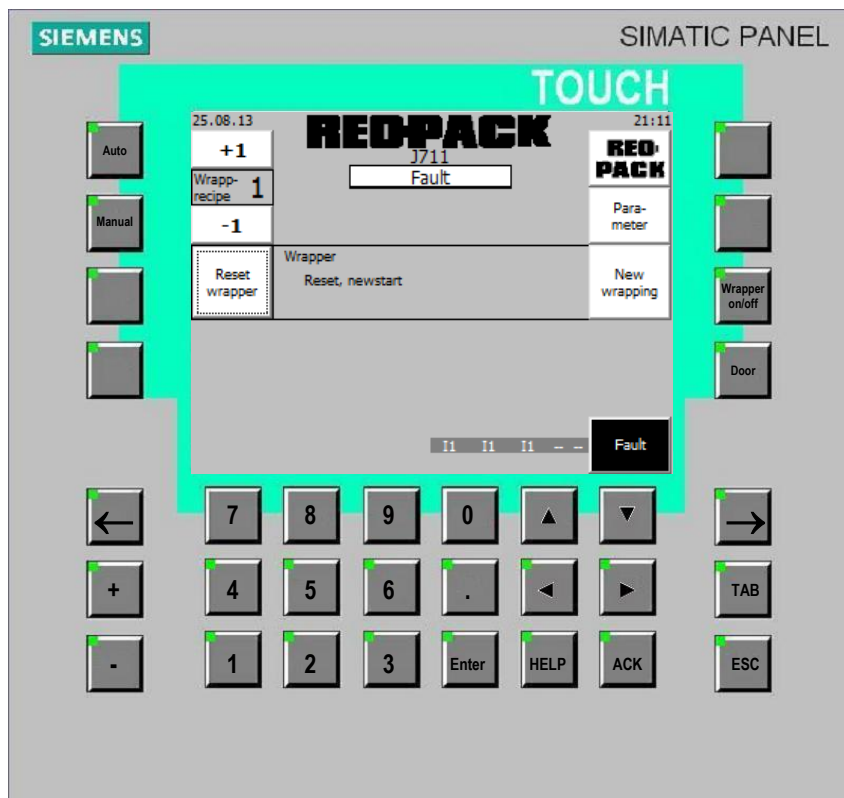
The following moving parts must be in their initial position:

- **The Turntable**
0 degree position, foil holder/sealing unit immediately at the tower.
- **The Filmguide**
Below, activating the lower limit switch.
- **The filmholder/Weldingdevice**
Closed, retaining the foil.
- **The Topclamp plate**
Above, activating the upper limit switch.

If an error message should be displayed, please refer to 6 *Errors*.

5 The Operating Panel

The diagram shows the operating field in the start condition. The OP is equipped with a touchscreen, a



touch-sensitive surface. Function keys displayed on it can be pressed to activate them. The date is displayed in the upper left-hand corner, the time in the upper right-hand corner. The **REO-PACK** logo is displayed in the middle of the upper row and beneath it the machine number and the operating status. Operating status messages are *Reset*, *Home Run* and *Error*. If no message is displayed, the pallet counter will be displayed instead.

The **REO-PACK** button is located to the right, as are further buttons for selecting a program sequence after a program reset. The number of the active sequence is displayed on the left, as is the reset button to reset the programs. The steps in the program are shown as numbers and text next to the reset button. Some of the buttons are only shown and operable if

required.

The outer left and right buttons beneath the display have arrows. If their LEDs are lit, further menu pages can be accessed. When pressed, the display will display the previous or the subsequent page. Buttons with the following functions can be found on the page shown above, the start page:

- | | | |
|-----------------|---|---|
| +1 | -1 | Pressing one of these buttons will select a program sequence that determines how the pallets will be wrapped. The number of the sequence selected is displayed between the two button descriptions. A sequence can only be selected if no pallet is being wrapped. (Option) |
| | | |
| REO-PACK | Pressing this button will call up a page on which the company address and the machine number are displayed. System functions can be called up from this page that allow REO-PACK maintenance personnel to load new software and adjust system parameters. | |
| | | |
| Para-meter | Call up the pages in which the parameter sets (sequences) and parameters can be altered (please refer to 5.4 Parameter menu). | |
| | | |
| Reset Wrapper | The wrapper program will be reset if this button is pressed and held for three seconds, if the machine is not in automatic mode. The text of this button will blink and the wrapper will return to its initial position (<i>Home-Run, please refer to 5.1 Program Reset</i>). | |
| | | |
| New wrapping | Wrapper outlet | After a wrapper program reset, this button can be used to decide whether a pallet currently placed in the wrapper should be re-wrapped or should be ejected. |
| | | |
| Fault | Displays triggered, already acknowledged error messages (<i>please refer to 6 Errors</i>). This symbol and the function are only active if there are triggered, already-acknowledged error messages. | |

The functions assigned to the buttons outside of the screen are permanent and are independent of the page displayed on the screen.

Auto	This button turns the wrapper <i>Automatic Mode</i> on and off. <i>Automatic Mode</i> can only be activated if there are no errors in the wrapper working area. The button LED indicates whether <i>Automatic Mode</i> is active or not (<i>please refer to 5.2 Automatic Mode</i>).
Manual	This button turns the wrapper <i>Manual Mode</i> on and off. It interrupts the wrapper <i>Automatic Mode</i> . In manual mode, the screen will display a page containing a series of buttons that allow movements to be performed automatically. The button LED indicates whether <i>Manual Mode</i> is active or not. <i>Manual Mode</i> can be switched off again by pressing the button once more or by activating <i>Automatic Mode</i> , resulting in the start page being displayed on the screen (<i>please refer to 5.3 Manual</i>).
Wrapper on/off	This button turns the wrapper on and off. In the off state, pallets are conveyed through the wrapper without being wrapped.
Door	This button locks and unlocks the door to the safety area. If the button's green LED is lit, this indicates that the door is unlocked and that all machine parts within the area have been switched off load-side. Release is delayed (<i>please refer to 3.6 Safety Door</i>).

If the door button LED is lit, the door to the safety area has been released. If it blinks rapidly, the button has been pressed and a release has been requested; if it blinks slowly, the door has been released but this release has not been requested by pressing the button. Press the button once more to re-lock the door.

5.1 Program Reset

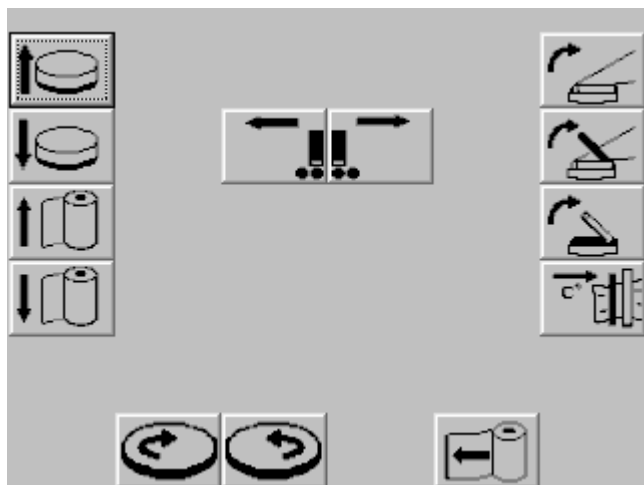
If you wish to reset the program, and if you want to return all moveable parts to their initial position, press and hold the Reset button until the message *Reset* or *Home Run* appears in the text display. The plant will then return to its initial position. A window will appear in the display during the Home Run, indicating all of the drives that have not yet returned to their initial position (*please refer to the diagram under 5 The Operating Panel*). This procedure can be interrupted by pressing the buttons for manual, auto or **ACK** or **ESC**. The message *Home Run* will be displayed in the text display while the plant is returning to its initial position.

5.2 Automatic Mode

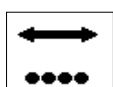
Automatic Mode is switched on and off by pressing the button for automatik. In *Automatic Mode*, the controller program executes a sequence of steps that, in their totality, perform the wrapping of a pallet. *Automatic Mode* can be interrupted and then continued at any time. The operating mode is displayed on the screen and the respective button's LED will be lit. The program can be reset (*please refer to 5.1 Program Reset*) and re-started. This allows a pallet to be rewrapped, using new settings if required.

5.3 Manual Mode

5.3.1 Wrapper manual



Manual Mode is switched on and off by pressing the button for manual drift. The button's LED will light up when activated and the text display will change to the manual menu. This shows the function key assignment. The program will be interrupted in manual mode and the movement of the individual drives can be controlled by the corresponding buttons. If an on going program should be interrupted by switching to manual mode, any moveable parts whose position was altered during manual operation must be returned to their original position before switching back to automatic mode. The manual operation menu has several pages. The arrow buttons can be used to switch to the previous or to the subsequent page.



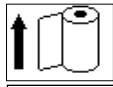
Moves the roller conveyor either forwards as long as the button remains pressed and the outlet roller-conveyor is empty, or backwards until the illuminated intake button is covered by a pallet.



By pressing this button, the topclamp runs up until it's in top position or the button is released.



By pressing this button, the topclamp runs up until it's in top position or the button is released.



Moves the foil carriage upwards as long as the button remains pressed and it has not reached its upper end position.



Moves the foil carriage downwards as long as the button remains pressed and it has not reached its lower end position.



Rotates the rotary disk forwards as long as the button remains pressed and has not entered one of its rest positions.



Rotates the rotary disk backwards as long as the button remains pressed and has not entered one of its rest positions.



Filmtransport only in used by service.



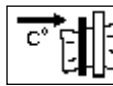
By pressing the button the welder unit will go up. The picture shows what happens by pressing the button.



Welding plate Open/Close. By pressing this button the Welding plate will open if it is closed, or close if it is open. The picture shows what happens by pressing the button.

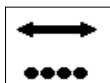
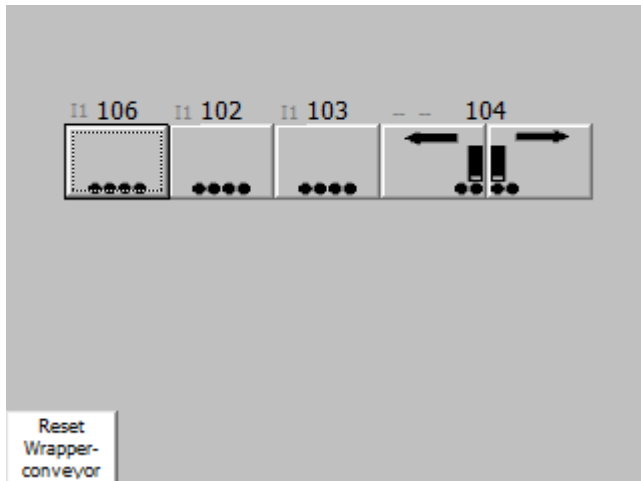


Filmretainer Open/Close. By pressing this button the Weldingplate will Open if it is closed, or close if it is open. The picture shows what happens by pressing the button.

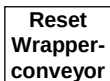


If welding plate and welder unit is up and pressing this button the unit will proform a welding and cutting.

5.3.2 Conveyor manual



Moves the roller conveyor either forwards as long as the button remains pressed and the outlet roller-conveyor is empty, or backwards until the illuminated intake button is covered by a pallet.



The conveyor programs will be reset if this button is pressed and held for three seconds. At the conveyor buttons flashed the text ,Reset‘.

5.4 Parameter menu

The parameter menu can be called up by pressing the **Para** button in the start menu. It is several pages long. The arrow buttons can be used to move to the subsequent or the previous page. Press the **ESC** button to exit the menu.

5.5 Parameter setting

Length/No./time		Film	Prestretch	
Filmoverrun	5			
Upwrapping	30%	65	150%	
Downwrapping	30%	65	150%	
1.Wrapping		100	350%	
Topwrapping	1	100	400%	
Middlewrapping	0	65	150%	
Bundwrapping	1	100	250%	
Weldinglayers	1	65	350%	
Pallet position	0			
		-1	Wrap-recipe: 1 Editor-Recipe: 1	+1

The first page of the parameter menu displays the settings of a parameter set. The cursor can be moved to the input field required by using the cursor keys or by touching that field. A new value can be entered using the numerical keys and is taken over by pressing **Enter**. The **+1** key will display the next parameter set, the **-1** key will display the previous one. The number of the parameter set displayed is shown above the keys.

The parameter items from *Wrapping* to *Sealing Layers* have entries for foil slowing, foil quantity and foil stretching for the times at which the program processes these items. This allows different foil values to be entered for different points in time. The value for quantity is a relative value relative to the maximum possible quantity

(100%). The stretching sets the elongation of the foil (100% = no stretching, 200% = doubling, etc.).

Filmoverrun

The height to which the foil should be wrapped above the upper end of the pallet. This results in the wrapped foil folding over the edge of the pallet surface.

Upwrapping

This value sets the overlap of the wrapping layers during wrapping. The greater the value, the slower the speed of the foil carriage (30% - 70%).

Downwrapping

This value sets the overlap of the wrapping layers during unwinding. The greater the value, the slower the speed of the foil carriage (30% - 70%).

1.Wrapping

Used to set different foil values for the first wrapping layer at the bottom. This is intended to ease the strain on the first layer when wrapping difficult wooden pallets.

Topwrapping

Sets the number of layers to be wrapped at the upper end of the pallet (1-9).

Middlewrapping

Sets the number of layers to be wrapped at the center of the pallet (0-9).

Bundwrapping

Sets the number of layers to be wrapped at the lower end of the pallet (1-9).

Weldinglayers

Sets the number of layers to be wrapped in the weldingplate. All this layers would be welded (1-3).

Pallet position

This parameter is a delay for the stop point of pallet by inlet.

Optionsswitches



By pressing this button, the topclamp-procedure in this recipe switched on / off.

5.6 Global Parameters

Global parameter	
Filmguide-hight for Wrapfilm change /cm	0
F-guide speed manual	30
Filmquantity manual	50
Filmprestrech. manual	200
Filmquantity by turnbrake	50
Filmquantity by closing weld.device	80
Welder /s	1.0
Cutting /s	1.0

The cursor can be moved to the input field required by using the cursor keys or by touching that field. A new value can be entered using the numerical keys and is taken over by pressing **Enter**.

F-guide speed manual

The speed with which the foil carriage can be moved in manual mode.

Filmquantity manual

The quantity of foil used in manual mode when the rotary disk is rotating and a palette is positioned on the wrapper.

Filmprestretch manual

Prestretch while the rotary disk is rotated in manual mode.

Filmquantity by turnbrake

The quantity of foil used in last seconds of turning turntable after wrapping. So it is adjustable how strong the film shall be by cutting and welding.

Filmquantity by closing weld.device

The quantity of foil used by closing welding device after cutting and welding. The foil must be spending by closing welding device.

Welder /s (time)

The welding time is the time in which the film is being welded.

Cutting /s (time)

The cutting time is the time in which the cutting wire is burning the film.

Filmguide parkway

The height of foil carriage under topsheet-lift, so that the topsheet can be wrapped in, if the carriage re-started at the pallet-height.

5.7 Error protocol /Date/Pallet counter

The screenshot shows the control panel interface. At the top, there are two buttons labeled '+1' and '-1'. Below them, the text '0.last fault' is displayed, followed by '001 Emergency-stop' and 'at: 25.08.13 about: 21:10'. In the center, the 'Pallet counter' is shown as '100 / 0'. To the right of the counter is a button with a crossed-out '123' symbol. Below the counter, there is a date and time display: 'Sunday', 'Date : 25 . 08 . 13', and 'Time: 21 : 20'. The time '21' is highlighted with a blue background.

This page allows the display language to be changed, the time and date to be set, the palette counter to be reset and the error protocol to be viewed. To enter the time and date, move the cursor to the required input field by using the cursor keys or by touching that field. A new value can be entered using the numerical keys and is taken over by pressing Enter.

Two buttons labeled '+1' and '-1' are shown side-by-side.

Scrolls between the last 20 errors in the error protocol.

A button with a crossed-out '123' symbol, used for resetting the pallet counter.

Reset of resettable pallet counter. The cumulative counter remains unchanged.

6 Errors

6.1 What to do in case of an error

1. Read the error message in the text display.
2. Press the **ACK** button to acknowledge the error. If the error should be displayed again, press the **Error** button on the start page.
3. Rectifying the error.
4. Press the **ACK** button to clear the error
5. Continue the program by pressing the Auto button.

6.2 Error Messages

001 Emergency stop

The emergency stop has been triggered. Unlock and release it.

009 Motor- or frequency converter

A motor circuit breaker has been triggered or a frequency converter has developed a fault. Call an electrician.

010 Security door opened

The door to the safety area is open or unlocked.

Close and lock the door (*please refer to 3.6 Safety Door*).

014 Pressair fault

The compressed air pressure at the sealing unit is not sufficiently high.

Have technical personnel rectify the fault.

017 Filmguide not in home-position

The foil carriage is not in its lower end position. Move it into its lower end position.

018 Filmguide run pulse missed

Call an electrician. Check the proximity switch at the drive motor and adjust or replace if necessary.

021 Wrappfilm empty or broken

The wrapping foil is torn or has been used up.

Replace if necessary (*please refer to 7.1 Wrapper Foil*).

025 Topclamp not in upper height

The topclamp plate (holding down clamp) is not on pallet (package). Bring it into position manually.

026 Topclamp not on package

The topclamp plate (holding down clamp) is not at its upper end position. Bring it into position manually.

030 Turndevice not in 0°

Move the rotary disk into its initial position.

032 Timecontrol wrapper step:###

The time required for several steps in the wrapping process are monitored. If these times should be exceeded an error message will be given along with the corresponding step-number.

033 Filmholder not opened

Open the filmholder manually.

034 Filmholder not closed

Open the filmholder manually.

035 Welding device not in home-position

Welding plate is not down, bring the down in manual. Check Reed contact if it is still not working.

036 Welding plate not in home-position
--

Welding plate is not down, bring the down in manual. Check Reed kontakt if it is still not working.

038 Cutwire broken

The cut wire is broken, please check and replace with a new cut wire.
Call an electrician.

039 Weldingwire broken

The Welding wire is broken, please check and replace with a new Weldingwire.

041 Welding device not in welding position

If the end of wrap film shall be welded, the welding device and the welding plate must be opened. Open both parts manually and be sure, that the film would be fixed in the filmholder.

049 Pallet not in correct position

The palette is incorrectly placed on the roller conveyor.
Position the palette correctly if necessary.

050 Pallet inlettime too long

The preset time for the palette intake has been exceeded.

051 Pallet outlettime too long

The preset time for the palette outlet has been exceeded.

053 Turndevice not in inletposition

Move the rotary disk into the intake position.

054 Turndevice not in outletposition

Move the rotary disk into the outlet position.

055 Inlet not free

The rotary disk intake sensor is covered.

056 Outlet not free

The rotary disk outlet sensor is covered.

08.. Inlettime too long by conveyor

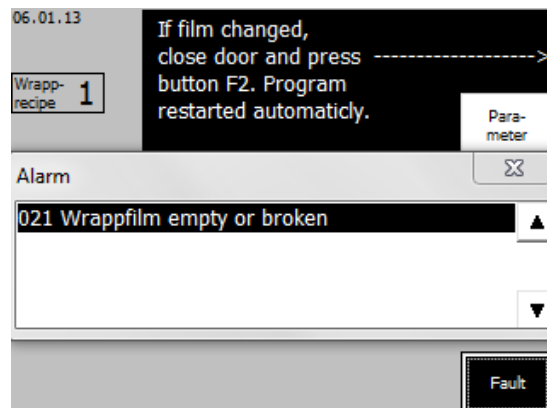
The preset time for the palette intake on this conveyor has been exceeded. Maybe the pallet is damaged or blocked.

7 Replacing the Foils

7.1 Wrapper Foil

7.1.1 Automatically when used up

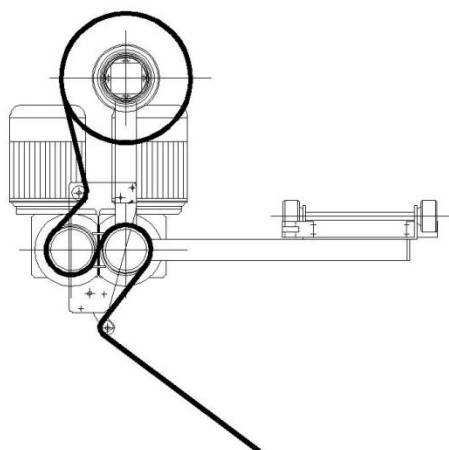
1. The wrapper monitors the run of the foil during wrapping. If it registers that no foil is running, then the foil is either torn or used up. The controller will register an 'empty' error and will move the rotary disk into its 0° position and the foil carriage down..
2. Open the safety door.
3. Draw the ends of the foil through the foil carriage rollers (see the figure below).
4. Insert the end of the foil into the foil holder.
5. Close the safety door.
6. Switch on the control voltage and press the **F2** button.
7. Now turn the plant back on by pressing the auto button.
The machine will begin to re-wrap the palette from the start



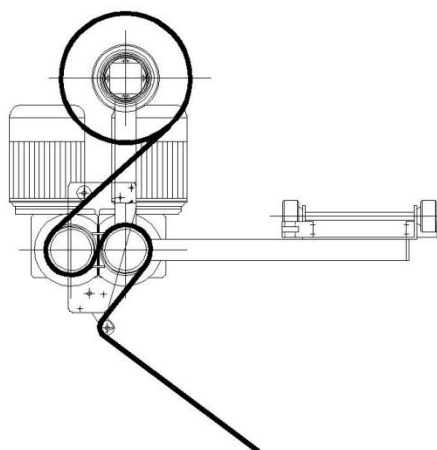
7.1.2 Manually, with no 'empty' message

1. The rotary disk must be in the 0° position. Move it into position manually if necessary.
2. Move the foil carriage upwards into its initial position, tilt the sealing unit and close the foil holder.
3. Open the safety door.
4. Draw the ends of the foil through the foil carriage rollers (see the figure below).
5. Close the door of the foil carriage and insert the end of the foil into the foil holder.
6. Close the safety door.
7. Switch on the control voltage and acknowledge the error message by pressing the **ACK** button.
8. Perform a Home Run (please refer to 5.1 Program Reset).
9. Turn on Automatic Mode by pressing the auto button.
Please use only foil from brand-name manufacturers.

Material: LLDPE (Linear Low Density Polyethylene). If the material is adhesive on one side it should be inserted such that the adhesive side faces towards the palette.



Inserting foil adhesive on the outside.



Inserting foil adhesive on the inside.

For reasons of safety, this procedure may be carried out by one single person only